WHAT IS CLAIMED IS:

1. In a surgically-implanted spinal support, wherein at least two screws are embedded into a patient's spinal column, each screw having an axis and each screw carrying a pair of clamps tightened by a nut on each screw, the clamps including an upper clamp and a lower clamp having respective cooperating semi-cylindrical slots for receiving a rod therebetween, the rod having an axis, the improvement comprising a pair of yokes carried by each screw and including an upper yoke disposed above and adjacent to the upper clamp and further including a lower yoke disposed below and adjacent to the lower clamp, each of the yokes having a substantially semi-cylindrical seat, and each of the clamps having a substantially semi-cylindrical complementary outer surface engaging the seats of the respective yoke, such that the clamps may swivel in either direction and to a limited degree about an axis which is substantially perpendicular to the axis of the respective screw.

2. The spinal support of claim 1, comprising at least a first screw and a second screw, the screws being spaced apart, the rod being connected between the respective clamps carried by the spaced-apart screws, the clamps on the first screw having a first length between the screw and the rod, the clamps on the second screw having a second length between the screw and the rod, wherein the first length may be different from the second length such that the rod may be disposed of at a preselected distance from each the first screw and the second screw as adapted to the anatomy of the patient's spinal column.

3. The spinal support of claim 1, wherein the upper yoke has a recessed top surface, a securing nut being received in the recessed top surface.

4. The spinal support of claim 1, wherein the clamps may swivel approximately ±15° about the axis of the screw.

5. A kit for surgically implanting a spinal support, comprising a plurality of sets of screws and cooperating clamps, a plurality of yokes, and a plurality of nuts together with at least one rod in accordance with the improvement of claim 1, wherein at least two of the sets have clamps of different lengths measured from the axis of the screw to the axis of the rod retained within the respective slots in the clamps, such that a multi-axial positioning system is provided for relatively-rapid surgical implantation of the rod with a substantially-reduced number of separate parts in the kit available in the operating room (O.R.), thereby providing the surgeon with increased flexibility while reducing the number of bends made in the rod during the

surgical procedure to conform to the patient's spinal configuration, and thereby reducing the stress concentrations normally imposed on the rod during the bending procedure while reducing the time required for the surgical procedure in the O.R., reducing stress and trauma on the patient and being less costly.

6. The kit of claim 5, wherein the multi-axial positioning system comprises the swiveling of the clamps, the clamps having different lengths, and the rod being adjustable lengthwise of the axis thereof and within the cooperating slots in the respective clamps.

7. The kit of claim 6, wherein the clamps may swivel by approximately 15° in either direction for a total excursion of approximately 30°.

8. A multi-axial positioning system for a surgically implanted spinal support embedded into a patient's spinal column, comprising:

at least one screw, a lower yoke having a semi-cylindrical seat having a first opening therein, an upper yoke having a semi-cylindrical seat having a second opening therein, the screw being received in the first and second openings and projecting above the upper yoke,

an upper clamp and a lower clamp, each clamp having a planar inner surface, the inner surfaces being disposed opposite one another, each clamp having a semi-cylindrical outer surface, the opposed clamps forming a cylindrical outer surface, each clamp having a through opening therein, the opposed clamps being disposed in the respective semi-cylindrical seat of the upper yoke and the lower yoke, the screw passing through the through openings in the clamps wherein the clamps may swivel in either direction to a limited degree within the upper yoke and the lower yoke thereby providing a first axis of positioning,

each clamp having an end distal from the screw, a semi-cylindrical slot being formed in each clamp near the respective end of each clamp, a rod having a length being adjustably received in the semi-cylindrical slots in the clamps, thereby providing a second axis of positioning,

each clamp having a length between the screw and the rod, the length of the clamp being selected to be adapted to the anatomy of the patient's spinal column, thereby providing a third axis of positioning,

and each screw being adjustably embedded at a preselected angle and depth into the patient's spinal columns thereby providing a fourth axis of positioning.

9. The multi-axial positioning system of claim 8, wherein the through opening in each clamp is elongated along a longitudinal axis of each clamp such that the clamps may be further slidably moved perpendicularly with respect to the screw thereby making incremental changes to the effective length of the clamps in the third axis of positioning.

10. A multi-axial positioning system for a surgically implanted spinal support anchored in the bone portion of a patient's spine comprising:

a first axis of positioning being formed by a pair of opposing clamps, each clamp having a semi-cylindrical outer surface and a through opening formed therein, a screw being received in the through opening, wherein the clamps may swivel in either direction and to a limited degree with respect to the screw,

a second axis of positioning being formed by a rod, the rod being movably received in a respective slot formed in an end of each of the clamps distal from the screw,

a third axis of positioning being formed by a length of each clamp between the screw and the distal end of the respective clamp, a plurality of clamps being provided, each pair of clamps having a length different from the other pairs of clamps,

a fourth axis of positioning being formed by the screw being adjustably anchored at a preselected angle and depth into the bone portion of the patient's spine.

11. In a spinal surgical procedure in an operating room ("O.R.") for implanting a spinal brace between spaced-apart vertebrae wherein a plurality of spaced-apart screws or other fasteners are anchored in the bond portion of a patient's spine, and wherein the screws carry respective clamping means for retaining a rod serving as a brace between vertebrae, the improvement comprising a multi-axial positioning system for the respective clamps, thereby minimizing the number of loose parts on the sterile field in the O.R., thereby facilitating a quick, convenient and easier implant of the spinal brace by the surgeon, and thereby involving substantially less time and hence less risk to the patient in the O.R. while substantially reducing overall costs.

12. A method of surgically implanting a spinal support in a bone portion of a spine of a patient comprising the steps of:

providing a plurality of screws, a plurality of pairs of clamps, the pairs of clamps having lengths different from other pairs of clamps,

a plurality of upper yokes and a plurality of lower yokes, a plurality of nuts, and a plurality of rods, the rods having differing lengths and differing curvature,

preparing the patient for surgery, incising the patient to expose the bone portion of the spine of the patient which is in need of repair,

inserting at least two screws into the bone portion at a spaced-apart distance, a depth and an angle required to treat the patient,

disposing lower yokes on each of the screws,

disposing a selected pair of clamps on each of the screws, each pair of clamps being seated in a respective lower yoke,

disposing upper yokes on the respective screws, each pair of clamps being seated in a respective upper yoke,

disposing a respective nut on each screw and partially tightening the nut to secure the respective upper yoke loosely on the clamps,

disposing a selected rod into semi-cylindrical slots on the ends of the clamp distal from the screws, moving the selected rod axially within the semi-cylindrical slots while swivelling the clamps within the upper and lower yokes such that the rod connects the at least two pairs of clamps and the rod is disposed substantially parallel to and conforming to the bone portion of the spine of the patient,

adjusting the degree of swivel and length of the clamps, adjusting the axial movement of the rod to align the rod with the bone portion of the spine and tightening the nut to secure the components in the desired relative positions.